

J. A. Green was born 1926 in Rochester N.Y., U.S.A. (his parents were both Scottish). He went to school in Toronto and Cambridge (England). Studied at St Andrews (1942-44 and 1946-47) and Cambridge (1947-50), Ph.D. 1951. Taught at the universities of Manchester (1950-63), Sussex (1963-65) and Warwick (1965-91). Retired 1991 as Professor Emeritus; since then he has lived in Oxford.

on various algebraic topics (as was a whole generation of British algebraists). I wrote my Ph D thesis on semi-groups. My first teaching appointment was at Manchester, and there I learnt from G.E. Wall (whom I already knew as fellow-student at Cambridge) about the work of Richard Brauer on modular representations. Although I did not meet Brauer until 1961, I have always regarded him as one of my teachers.



Professor J. A. Green, you had a magnificent career topped with a number of honours. The Senior Berwick Prize in 1984, an R. S. Fellowship, to mention just two. Surely now when you look back you must have a feeling of achievement.

How and when did it all begin? Is there anything you regret not having done?

‘My father was a professor of French literature, and I always expected to have an academic career. My boyhood interests were in science, particularly chemistry, and I applied to St Andrews to study chemistry. But by the time I arrived at university I had decided that mathematics was my true vocation. Fortunately there was no difficulty in changing my course, because the curriculum in the Scottish universities is quite flexible.

By the time I went to Cambridge I had decided I wanted to do research in algebra. At Cambridge I was much influenced by the lectures of Philip Hall

The 1950s and 1960s saw the flowering of the great French school of post-war mathematics, the famous Chevalley seminars on algebraic groups, and the revolution of geometry and analysis by topological methods at the hands of Serre, Hirzebruch and many others. Among my mathematical regrets is that I did not become more closely involved in these new methods, and especially that I did not become more expert in algebraic geometry. Because algebraic geometry has provided powerful techniques and insights in algebra; perhaps the most striking example of this is the work of George Lusztig, which has completely transformed the representation theory of the classical groups.’

You are a frequent visitor to Portugal. Some of your former students live here.

How was this connection established? Did it just start because you happened to have a first portuguese student?

‘Yes. I first came to Portugal in 1984 to attend a meeting in Coimbra, and I know that the initiative for that invitation came from my former student Teresa Martins. Subsequent visits to Lisbon and Coimbra have given me the pleasure of seeing also my two other Portuguese former students Teresa Nogueira and Ana Paula Santana, and I have been happy to get to know some of their colleagues in both universities.

I greatly value my connections with Portugal and with Portuguese algebraists; I am always glad to come and sorry to leave!’

We know that you were actively involved in the war effort, at Bletchley we think, during World War II. Despite the hardship of war conditions it must have been an exciting time to be alive.

What kind of mathematical work were you doing? Would you regard it as mathematical research and publishable as such if circumstances allowed it?

‘You must remember that I was very young (only 18 years of age) when I went to Bletchley Park. Moreover I arrived in August 1944, and the war in Europe was in its final phase. By that time M.H.A. Newman’s plan, to use specially designed electronic computers to assist in the decyphering of the “Fish” series of coded messages, was well advanced. I was one of a number of new recruits to Newman’s section (which was called the “Newmanry”), and our main task was to operate these “Colossus” computers, using well-establishment routines. It was beside one of these machines that I first met my future wife Margaret – she was in the WRNS, the women’s branch of the Navy. Of course Bletchley is not near the sea, but anomalies of this kind were normal in wartime! However I certainly did nothing at Bletchley which could be called research. There were others in this section who had been at Bletchley much longer, and who had made important contributions to the breaking of enemy cyphers. A statistical “significance test” invented by I. J. Good for use with the Colossus was, I think, published after the war.

Since security restrictions have been lifted, several books about Bletchley Park have appeared. From one of these (*Code Breakers*, edited by F. H. Hinsley and A. Stripp, Oxford University Press, 1993) I have learnt a great deal which I certainly did not know while I was there! The chapter by Jack Good describes The “Newmanry” very well.’

Many of your colleagues are highly critical of the Thatcherian and Post-Thatcherian eighteen year period and the effects its policy had on British education as a whole and on universities in particular.

Do you share their views? What changes can be expected now, May 97, that Labour has come to power?

‘On your last question: I think that British government policy on universities will not change very much. Most of Western Europe (in fact, most of the world) faces the problems which result from a huge increase in the number of students in higher education. In Britain, even the Conservative administration did not try to

meet this by encouraging private universities. Instead, a large number of existing colleges were renamed “universities”. It will take quite a long time for many of these new universities to reach the standards of the old ones, but I think that the government’s Teaching Assessment and Research Assessment “Exercises” attempt to provide a uniform standard against which all universities can measure themselves.

In the golden years of Britain’s “welfare state” (1960s and 1970s) every student who was offered a university place, received a grant sufficient to cover his/her tuition and living expenses for the three years of the normal first degree course. It will never be the same again! Present plans are for the state to provide loans to students, to be paid back when the graduate is earning a salary above a certain level.

I did not like Mrs Thatcher. Her aggressive attitude to trade unions, for which she was much praised, seemed to me to be the wrong approach to labour-management relations. It will be interesting to see if New Labour can think of something better. But I suspect that New Labour will not change the British educational system very much.’

Recently 4 year degrees were introduced in British Universities. Also many people think that for most mathematical fields the normal 3/4 year Ph D period is not enough to produce original work of some quality. Mathematics is becoming a more and more demanding subject.

Is there a way out? Will curricula have to be revised possibly implying earlier and further specialisation? What is your opinion?

‘The 4-year option for a mathematics degree in Oxford is just beginning. But it will be hard for the student to decide (as he must do, I think, early in his second year) whether to take the 3-year or the 4-year degree. Also there is a “quota” or “numerus clausus” for the 4-year degree, which may lead to difficult decisions if too many students opt for this.

I think that this is not a very good plan. I would prefer something like the Scottish system: the degree would take 4 years, the first year course being more elementary than the first year of a normal English university course, but less specialized; the student would take 3 or 4 subjects at first year level (e.g. physics, chemistry, mathematics) and would enter a specialized honours course in one of these subject only in the second year. Many students at school really do not know what subject suits them best, and there is a great advantage in delaying the choice until they have a year’s experience of university work.

Regarding Ph D’s, it is true that 3 years is often not enough, especially if it takes at least a year to acquire the specialized knowledge to understand the research problem! I do not know how to get round this within the British system, except by spending more money on Ph D grants.’

You are now retired and seem to be enjoying it. You go on giving plenty of invited talks, publishing research papers and we have seen some texts you wrote recently.

Would you mind telling us about your present experience?

‘Well, yes, I am! I remember being surprised that when Philip Hall retired, he stopped doing mathematics – he said he wanted to pursue his interests in history. In my case I have had no doubts that I want to go on doing mathematics, and being a part of the international mathematical scene, as long as possible.

Sometimes I am surprised that I am so busy in retirement. But I should not be surprised; this happens

because I wish it to be so. It is important to me to keep in contact with other mathematicians, and so I go to more meetings now than I did when I was teaching. I am still very interested in the development of mathematics.

I have read that Marcel Proust approved of the motto “Travaillez pendant que vous avez la lumière”. I have a wife who refuses to grow old. These are examples which I want to follow.’

GALLERY

José Sebastião e Silva

Sebastião e Silva was born in Mértola in the Alentejo on 12th December 1914. He was awarded a degree in Mathematical Sciences from the Faculty of Sciences in Lisbon in 1937, in which he gained high marks; nevertheless, it was only in 1942 that he was taken on as

first articles in the journal *Portugaliæ Mathematica* in 1940 and 1941 (thirty years later, some of these articles, on the solution of algebraic equations, became the starting-point for famous specialists in the area of Nu-



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Assistant Lecturer in that Faculty. A five-year delay at this very important period in the research career could have had serious consequences, but its effects were mitigated by the support he received from António Aniceto Monteiro, at that time Director of the Centre of Mathematical Studies in Lisbon. It was as a collaborator with this Centre that Sebastião e Silva published his

merical Analysis, and continued to be quoted in 1996 and 1997).

With a grant from the Instituto de Alta Cultura, he was able to work in Rome for four years (1943-46). Despite the war and Nazi occupation, Sebastião e Silva considered this to be a very important period of his life, in both scientific and human terms. He had the